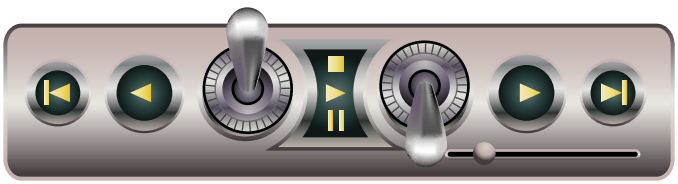
Flight Surgeon Refresher Course

Section 5: Aeromedical Fitness

Health Services Support in a Joint Theater of Operations (FSRC601)



HEALTH SERVICES SUPPORT IN A JOINT THEATER OF OPERATIONS

Introduction

Operational assignments for a Flight surgeon or Aeromedical PA typically include supporting different kinds of aviation brigades, aviation battalions, medical evacuation battalions or task forces. Your command, regardless of unit type, will expect you to advise him on health service support for his soldiers. To do this you must understand your role as a special staff officer and advisor to the commander and responsibilities expected for your position.

Developing a good health service support plan for your unit begins with your interaction with the commander and correct understanding his intent. As his key medical staff advisor, you must understand the unit's mission, the ongoing operational conditions and health of the unit. Operational conditions are often obtained through interactions with other unit staff members.

It is important for you to develop a working understanding of the Joint Health Services Support (HSS) environment in order for you to develop a HSS plan that will work for your unit.

This lesson introduces some basic elements of the Joint HSS system. Recognize that it will be incumbent on you to explore your own local situation for patient movement.

Objectives

a. **From memory, list the key references which govern Health Service Support in a Joint Theater of operations.**

b. **Describe the six principles of Health Service Support.**

c. **De ne and describe the differences between AIREVAC, MEDEVAC, and CASEVAC.**

d. **From a list, select the sentinel contributions of Aeromedical Evacuation to combat medicine throughout history.**

e. **Given a list of AIREVAC organizations, describe the primary role of each organization in the overall AIREVAC mission.**

f. **List the distinguishing features of each of the ve echelons of care and name a characteristic medical treatment facility for each.**

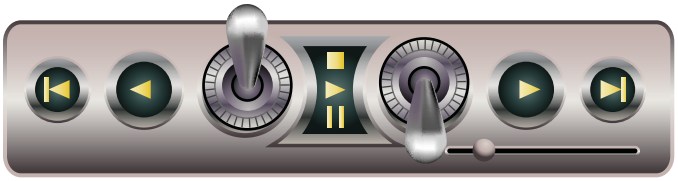
g. **Describe the elements of the Army's modular medical support system.**

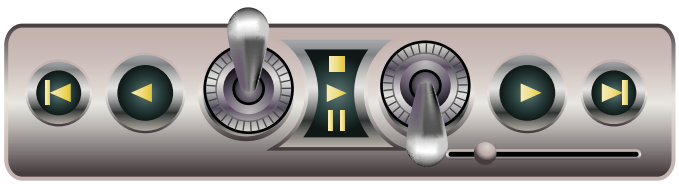
h. **Given a patient's condition, determine from memory the proper Evacuation Precedence.**

i. **De ne the theater evacuation policy.**

j. **Discuss various considerations in MEDEVAC planning.**

k. **De ne administrative and clinical patient validation for AIREVAC.**



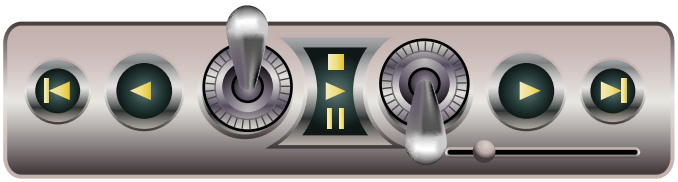


What are the key references governing Health Service Support?

- Joint Pub 4-02.2 Joint Tactics, Techniques and Procedures for Patient Movement in Joint Operations
- AFR 164-5/AR 40-535/OPNAVINST 4630.9C/MCO P4630.9A Worldwide Aeromedical Evacuation
- FM 8-55 Planning for Health Service Support
- FM 8-10 HSS in a Theater of Operations
- FM 8-10-6 Medical Evacuation In A Theater Of Operations

Principles of HSS

Six principles of health service support:	
Conformity	• Conforming to the tactical plan is the most basic element for effectively providing health service support. • Determine requirements. • Plan the support needed to conform to tactical operations. • Participate in the development. • Conform to the Commanders intent.
Proximity	• Provide health service support to sick, injured, and wounded soldiers at the right time and to keep morbidity and mortality to a minimum. • Employed far forward as the tactical situation permits. • Early acquisition, sorting, and treatment • Ensure treatment elements or medical treatment facilities (MTF) do not interfere with combat operations.
Flexibility	• The objective is to be prepared to shift HSS resources to meet changing requirements. • Changes in tactical plans or operations make flexibility essential. • Modular system • Shift resources as required • Reconstitute, reinforce
Mobility	• The objective is to ensure HSS assets remain close enough to support maneuvering combat forces. • Mobility of medical units organic to maneuver elements should be equal to the forces being supported. • Patient accumulation.
Continuity	• The objective is to provide optimum care and treatment to the sick, injured, and wounded in an uninterrupted manner. • HSS is a continuum through a progressive, phased system. • Primary source of trained replacements • Optimize return to duty. • Each unit contributes a measured, logical increment appropriate to its location and capabilities.
Control	• The objective ensures efficient employment of scarce HSS resources to support the tactical and strategic plan. • One central medical planner • Centralized control and decentralized execution. • Scope and quality of medical treatment meet professional standards and policies.



The "Golden Rule" of Medical Evacuation:

The patient should not experience a decrease in the level of care he/she receives bedside-to-bedside.

NOTE: The referring physician is responsible for the patient until he is under the direct care of the receiving physician at the destination facility unless that responsibility has been transferred to another physician accompanying the patient.

Definitions

Aeromedical Evacuation (AIREVAC)

Formally: "The movement of patients under medical supervision to and between medical treatment facilities by air transportation."

However, the term "AIREVAC" typically refers to "intertheater aeromedical evacuation"- That phase of aeromedical evacuation which provides airlift for patients between points of treatment outside the combat zone, within a theater of operations. This is usually performed by USAF strategic AirEvac

Medical evacuation (MEDEVAC)

(From FM 8-10-6): the timely, efficient movement and en route care by medical personnel of the wounded, injured, or ill persons from the battlefield and/or other locations to MTFs. The provision of en route care on medically equipped vehicles or aircraft enhances the patient's potential for recovery and may reduce long-term disability by maintaining the patient's medical condition in a more stable manner.

- The gaining MTF is responsible for arranging for the evacuation of patients from the lower echelon of care. For example, Echelon II medical units are responsible for evacuating patients from Echelon I MTFs.
- Medical evacuation begins when medical personnel receive the wounded, injured, or ill soldier and continues as far rearward as the patient's medical condition warrants or the military situation requires.

Casualty evacuation (CASEVAC)

CASEVAC is a term used by nonmedical units to refer to the movement of casualties aboard *nonmedical* (undedicated) vehicles or aircraft. CASEVAC implies a lack of en route care.

Responsibilities

AFR 164-5/AR 40-535/OPNAVINST 4630.9C/ MCO P4630.9A/Joint Pub 4-02.2 lists the responsibilities for medical evacuation as follows:

USAF Air Mobility Command (AMC):

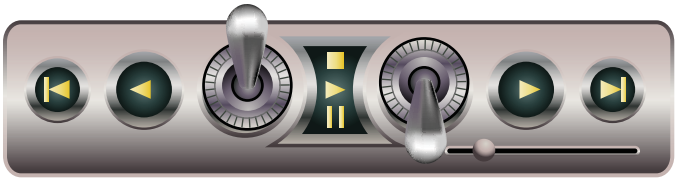
- Intertheater and intratheater aeromedical evacuation (AE) except as below
- Provide ASF/MASF

ARMY:

- AE within Army combat zones (for all services)
- Rotary wing support for ship-shore patient movement

NAVY:

- AE over routes solely of interest to the Navy where USAF cannot provide



Echelons of the Health Service Support System

What are the echelons (levels) of the combat health support system?

There are five echelons (levels) of combat health support exist that may have an impact on patients as they are treated or evacuated form the forward line of troops (FLOT) to the zone of interior (ZI).

Echelon I (Level I):

- The first medical care a soldier receives is provided at this echelon.
- This echelon of care includes the following:
  1. Immediate lifesaving measures
  2. Disease and non-battle injury prevention
  3. Combat stress control prevention measures
  4. Casualty collection
  5. Evacuation from supported units to supporting medical treatment

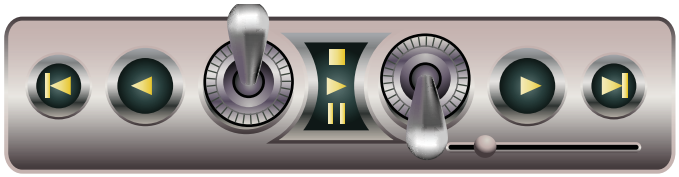
Patient is carried to waiting helicopter at 3rd Bn. forward aid station, 21st Inf. Regt., 24th US Inf. Div., located at base of hill along the front in Korea, as he is air evacuated to rear area.

Location: KOREA Date Shot: 13 JUL 1951 Camera Operator: CPL. SWEENEY

- Treatment: Emphasis is placed on those measures necessary to stabilize and allow for the evacuation of the patient to the next echelon of care.
- Self-aid/ Buddy aid: Each soldier is trained to be proficient in a variety of specific first-aid procedures. These include aid for chemical casualties, with particular emphasis on lifesaving tasks.
- Combat lifesaver: A member of a non-medical unit selected by the unit commander for additional training beyond basic first aid procedures. A minimum of one individual per squad, crew, team or equivalent-sized unit should be trained. The combat lifesaver assists the combat medic by providing immediate care for injuries. Medical personnel provide training and assist the commander in managing the program.
- Combat medic (aid man): The first individual in the CHS chain who makes medically substantiated decisions based on a medical MOS training. The combat medic trains to emergency medical treatment (EMT) level.
- Battalion aid station: The physician and physician assistant in a treatment team or squad provide ATM or trauma treatment to the battlefield casualty. This element also conducts routine sick call when the situation permits.

Echelon II (Level II):

- Evacuating patients from echelon I (level I).
- Treatment/ care at the FSMC or MSMC
- Provide echelon I care on an area basis.
- Provide tailgate medial support.
- Provide Dental care.
- Laboratory capability.
- X-ray capability.
- Patient holding capability (48 to 72 hours)



- Units providing Level II care:
  1. Medical companies organic to support battalions of separate maneuver brigades
  2. Support squadron medical company of armored cavalry regiments (ACR)
  3. Divisional support battalion medical companies (FSBs, MSB)
  4. Non-divisional medical battalions in the corps and communication zone (COMMZ)

Echelon III (Level III):

- Evacuation of patients from supported divisional and non-divisional units
- Treatment for all categories of casualties in a medical treatment facility (MTF) with the proper staff and equipment
- Supports on an area basis to units without organic medical units
- First level you see a hospital
- Units providing Level III care:
  1. Mobile army surgical hospital (MASH)
  2. Combat support hospital (CSH)

Mobile army surgical hospital (MASH):

- 30 bed capacity
- Provides life saving forward surgical (advanced trauma life support) and medical care for non-transportable patients, in order to stabilize them for further evacuation
- 100% mobile
- But is being phased out and replaced with forward surgical teams (FST)

Combat support hospital (CSH):

- 296 bed combat zone hospital
- Stabilizes patients for further evacuation or RTD
- Treats all types of patients
- 15% mobile

Echelon IV (Level IV):

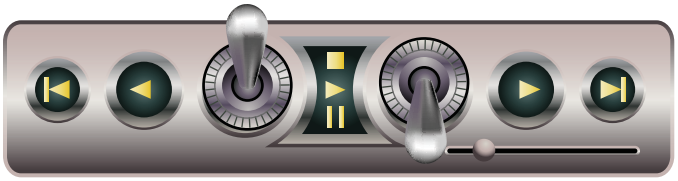
- General and specialized medical and surgical care
- Provides further treatment to stabilize those patients requiring evacuation to CONUS.
- Provides rehabilitation for soldiers who may be returned to duty.

Echelon V (Level V) (Referred to as the Zone of Interior):

- Provides the most definitive care available with the Army Medical Department
- Health care services rendered in CONUS

Hospitals include:

1. MEDCENs
2. MEDDACs
3. Veterans Administration hospitals
4. Designated civilian hospitals



What is the modular medical support system?

- The modular medical support system standardizes all medical sub-units within the division providing HSS.
- The modular design of HSS enables the medical resources manager to rapidly tailor, augment, reinforce, or reconstitute the battlefield in areas of most critical need.
- This system acquires, receives, and sorts patients.

What sub-units are part of the modular medical support system?

- Combat Medic
- Ambulance Squad
- Treatment Squad
- Area support squad
- Patient holding squad
- Area support section
- Forward surgical team (FST)

Combat Medic:

- One combat medical specialist and their prescribed load of medical supplies and equipment
- Organic to the medical platoons/ sections of combat and selected combat support battalions

Ambulance Squad:

- Four medical specialist and two ground ambulances
- Provides evacuation of patients throughout the division and ensures continuity of care en route
- Organic to the medical platoon/ or medical company (FSMC/MSMC)
- Located throughout the battlefield

Treatment Squad:

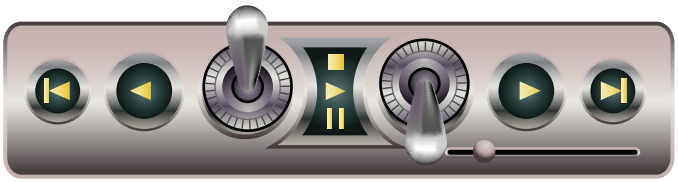
- 1 primary care physician
- 1 physician assistant (PA)
- 6 medical specialists with two emergency treatment vehicles and equipment
- Each squad can be split into two treatment teams
- The foundation for the battalion aid station (BAS)
- Squads or teams are organic to medical platoons / medical sections of combat and selected combat support battalions.

Area support squad:

- 1 dentist trained in advanced trauma management (ATM)
- 1 dental specialist
- 1 x-ray specialist
- 1 medical laboratory specialist
- Organic to the FSMC and MSMC in the brigade support area and division support area
- Incapable of independent operations
- Patient holding squad:
- 2 practical nurses (enlisted soldiers)
- 2 medical specialists with associated equipment
- Capable of holding and providing minimal care for patients who will return to duty
- Light division squads can hold up to 20 patients, and the heavy division squads can hold up to 40 patients
- Organic to the FSMC and MSMC in the BSA and DSA
- Incapable of independent operations

Area support section: Composed of:

- 1 treatment squad
- 1 area support squad
- 1 patient holding squad
- Provides HSS on an area basis in the BSA and DSA
- Organic to the FSMC and MSMC in the BSA and DSA



"Dust Off"

The Vietnam Conflict from 1965 to 1973 saw a much fuller exploitation of the helicopter for aeromedical evacuation. Combat search and rescue helicopters rescued aviators who were shot down. Helicopters in support of U.S. Marines and Army forces picked up the wounded soon after injury, and quickly transported them to definitive treatment facilities. Helicopter aeromedical evacuation was considered a significant factor in the decreased mortality from wounds noted in that conflict. During World War II, about four percent of the casualties reaching medical treatment facilities died. During the Korean Conflict, this was reduced to two percent. The Vietnam conflict demonstrated fatality rates of one percent for casualties arriving at medical treatment facilities.

"Dust off" is slang for "medevac" which is short for "medical evacuation." The term "dust off" is thought to come from the fact that these choppers land anywhere there is an injured or sick person needing transportation to a hospital; often such people are out somewhere in a remote area, where there is no large expanse of paved surface — often not even a paved spot on which to set the chopper down. So if it is dry season, the rotors kick up a lot of dust and leaves and twigs, particularly on takeoff. And one would suppose that is how the term "dust off" originated — not only as a noun ("Get a 'dust off' for him") but also as a verb ("We dusted him off"). SOURCE: Trembly, Diane L., Petticoat Medic in Vietnam, Vantage Press, 1976.

Forward surgical team (FST):

- 10 Officers
- 10 Enlisted
- 2 operating room tables provide early resuscitative surgery for seriously wounded or injured casualties.
- Eight post surgical patient beds.
- Designed to treat 20 casualties within a 48-hour period.
- Not organic to a division (except Airborne/ Air Assault Divisions)
- Replacing the mobile army surgical hospital (MASH)

Evacuation Precedence

The requesting physician must assign an appropriate precedence to each patient for which evacuation is requested. The validating officers use this precedence to manage their [often limited] movement assets within the area of operations. It is critical that this precedence is used appropriately in order to insure that a movement asset is not inappropriately re-routed from a patient with higher need at another location in order to meet your request for a patient who may not truly need immediate evacuation.

(I) URGENT: Requires Emergency evacuation to save life, limb, eyesight, or complication of serious illness

(IA) URGENT-SURGICAL: Requires forward surgery to save life and stabilization for evacuation

(II) PRIORITY: Prompt medical care not available locally; Move within 4 (24 USAF) hours

(III) ROUTINE: Move within 24 (72 USAF) hours

(IV) CONVENIENCE

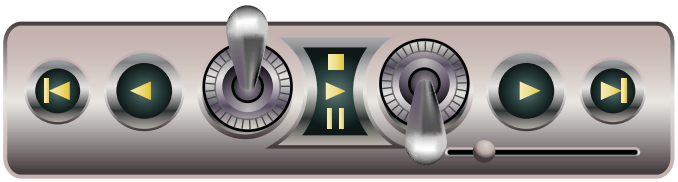
Theater Evacuation Policy

The first question is **WHO** gets evacuated. The **theater evacuation policy** is a critical variable in medical planning. It is established by the Secretary of Defense, with the advice of the Joint Chiefs of Staff and upon the recommendation of the theater commander and is usually found in the OPORD/ OPLAN. The policy establishes, in number of days, the maximum period of non effectiveness (hospitalization and convalescence) that patients may be held within the theater for treatment. This policy does not mean that a patient is held in the Theater of Operations (TO) for the entire period of non effectiveness. A patient who is not expected to be ready for Return to Duty (RTD) within the number of days established in the theater evacuation policy is evacuated to the CONUS or other safe haven. This is done providing that the treating physician determines that such evacuation will not aggravate the patient's disabilities or medical condition. For example, a theater evacuation policy of 15 days does not mean that a patient is held in the theater for 14 days and then evacuated. Instead, it means that he is evacuated as soon as possible after the determination is made that he cannot be returned to duty within 15 days following admission to an Echelon III or above hospital.

Medical Evacuation Considerations

Each situation is different and requires careful mission planning using the METT-T principles. It is essential that all unique mission parameters are considered when developing the HSS plan. We must also understand that every situation dictates its own course of action and we cannot always follow every recommendation to the "T," but must do our best to accomplish the primary goal of getting patients to the appropriate level of care at the appropriate time. Following are several additional considerations for HSS planning:

- **Enemy Prisoners of War (EPW)** should remain physically segregated during movement. EPWs should receive the same level of medical care at allied and US casualties. However, when possible, it is best to move them on separate evacuation assets in order to maintain the morale of the US casualties
- **Fatalities** should remain physically segregated for similar reasons.
- **Single command authority.** One of the principles of war, Unity of command applies to HSS planning as well. Dedicated MEDEVAC assets must be under separate command to insure that they are utilized for their mission and not sidetracked for non-medical missions. A single command authority over medical assets ensures the timely application to the point on the battlefield that is in the most need.
- **Don't bypass echelons of care.** The overall system works best when the system flows as planned. While individual patients or situations may dictate flying over one echelon to get to the appropriate level of care (e.g. the CSH), we must be aware that the extended flight time may pull movement assets out of action for longer periods of time and may ultimately do more harm for the overall group of casualties in need and the added benefit to the individual may not justify it. The MEDEVAC team must apply careful judgment to insure that we do the most good for the *most* people.
- **Patient Movement Items (PMI).** It takes a lot of equipment to move a critical patient (defibrillators, monitors, litters, etc) . These items are collectively called "Patient Movement Items" and represent a tremendous logistics trail which is often overlooked. The USAF has been given the responsibility for the PMI program throughout the DoD, but unfortunately the limits of this very effective program usually do not extend down to echelon I or II units. This requires the use of many hand receipted items for most patient movements, and consideration must be given to the return of these items to the rightful owners after the patient movement is completed.
- **Communications Plan.** The weakest link in the HSS plan is the communications plan. It is critical that medical evacuators know and understand the communications mechanisms in place and plan for alternative, contingency and emergency communications procedures at all levels.



- **Geneva and Hague Conventions and the Medical Rules of Engagement (ROE).** Know and understand the general limitations and protections under the Geneva and Hague conventions as well as the theater and local medical ROE which may impact the care and service provided. Many evacuation assets (air and ground ambulances) are marked with identifying marks (e.g. the Red Cross) and require restrictions regarding their use and the use of force in the protection of these movements. Make sure that every member of the team understands these.

Patient Validation

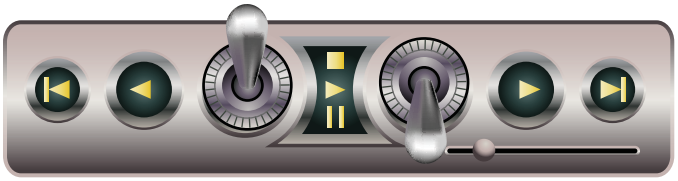
Prior to entry into the Air Force AIREVAC system, **patients must be administratively and clinically validated.** This will be accomplished by the Global Patient Movement Requirements Center (GPMRC)/ Theater Patient Movement Requirements Center (TPMRC), formerly the Armed Services Medical Regulating Office (ASMRO)/ Joint Medical Regulating Office (JMRO). Normally, the attending physician will request movement through the local AELT (AIREVAC Liaison Team) who will arrange for the initial communications between the validating officers at the PRMCs and the attending medical team.

Administrative validation - ensures eligibility, and financial reimbursement as required as well as achieving other administrative and tracking requirements.

Clinical Validation - ensures that the patient will be sent to an appropriate medical facility that will improve his level of care. Other important components of clinical validation are determining the availability of medical personnel, equipment, and PMI. It is incumbent on the attending medical team and the clinical validator from the PMRC to determine the impact of flight and that the patient's condition will not deteriorate during aeromedical transportation. For movements within the Army system, this process will be informal, but the MEDEVAC team must insure that these considerations are made. (Clinical considerations for MEDEVAC are discussed in lesson 604).

Some contacts for the Air Force Aeromedical Evacuation system: (Note: these phone numbers were validated at the time of this writing, but please take the time to validate them yourselves before you may need them. Additionally, there may be a temporary TPMRC established for your Area of Operations, so investigate these during your HSS planning).

GPMRC (Scott AFB, Il) – within CONUS or USSOUTHCOM – DSN 779-6241 – (618) 229-6241 – 1-800-874-8966 (24-hr)	TPMRC – EUROPE (Ramstein AB, Germany) – for USEUCOM and USCENTCOM – DSN 314-480-2264/8040 – 011-49-6371-47-2264 or 8040
TPMRC - PACOM (Yokota AB, Japan) – Throughout Asia and Pacific – DSN 315-225-4700/4857 – 011-81-311-755-4700 or 4857	RHEIN-MAIN/CAMP SMITH, GERMANY – for Europe – DSN 330-7427 / 7428



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